

Etymology. *Confinis*—Latin, adjacent to.

Remarks. Hoesch & Niethammer (1940) give the weights of 3 ♂♀ taken in January at Goodhouse by Niethammer as 9, 9.5 and 10.5 g.

The colour variation here described in respect of the arid lower Orange R. population of *P. substriata* parallels closely that recently shown to be present in a second sympatric endemic warbler, namely, the Cinnamon-breasted Warbler *Euryptila subcinnamomea* (Smith), which likewise had not been previously closely studied (Clancey 1990). *E. s. petrophila* was, like *P. s. confinis*, proposed from the desertic lower Orange valley.

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Types, type localities, and variation in some races of the Colasisi or Philippine Hanging Parrot *Loriculus philippensis*

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The Colasisi or Philippine Hanging Parrot is a highly variable species, with 11 races recognized by duPont (1971). The nomenclature of the

populations of the Visayan islands in the central part of the archipelago and of the southern island of Mindanao is dependent upon the exact geographical origin of the various type specimens and is complicated by confusing early discussions and by hitherto uncorrected errors. These aspects of nomenclature will be reviewed, along with a discussion of the number of Visayan races that merit recognition. Variation within the species in certain other islands will also be mentioned.

The Eastern and Central Visayas and their races

The Visayas lie between Luzon and Mindoro to the north and Mindanao to the south. Samar and Leyte (and small satellite islands) form the Eastern Visayas; the Colasisi of these islands was named *Loriculus* [*p.*] *worcesteri* by Steere (1890). Specimens from Bohol, southwest of Leyte and politically part of the Central Visayas, have also been assigned to *worcesteri* (Rand & Rabor 1960); this would be consistent with the avifaunal relationships in general for Bohol, which shares 19 subspecies with Samar and Leyte while having five endemic subspecies of its own (Parkes 1973). However, Parkes (unpublished notes) compared 9 adult male and 7 adult female Colasisis from Bohol with 2/2 from Samar and 4/4 from Leyte, and found what appear to be consistent characters differentiating the Bohol series. Comparison of Bohol specimens with a larger series from Samar may well justify naming the Bohol population as an additional subspecies.

Steere (1890) gave Samar and Leyte as localities for *worcesteri* without specifying a holotype; his original series included birds from both islands. Warren (1966) stated that the British Museum (Natural History) holds 4 syntypes of *worcesteri*, of which she selected for her type list (an action that she pointed out was not to be considered a lectotype designation) a male from Catbalogan, Samar, 8 April 1888 (inadvertently omitting its register number, 1896.6.6.1041). This was apparently in accordance with her policy, stated in her introduction, of selecting for listing out of a syntypal series "the one which has been regarded as the holotype, because of a manuscript indication or a subsequent publication". She mentioned the fact that Hachisuka (1934) had listed the Catbalogan specimen as "the type", and the information provided to Parkes (1973) indicated that the BM(NH) staff also considered this specimen to be "the type". Although Hachisuka did not use the word "lectotype" for BM(NH) 1896.6.6.1041, his designation appears to be valid under Article 74 of the International Code of Zoological Nomenclature. This would be important if the populations of Samar and Leyte had differentiated subspecifically, but as Parkes (1973) pointed out, there is no consistent difference between *Loriculus* specimens from these two islands.

The small island of Siquijor is politically part of the Western Visayas, but as the southeasternmost island of this group it is actually as close to the Central Visayas. The endemic race *L. p. siquijorensis* Steere is well-marked and not controversial, but is thought to be extinct (Rand & Rabor 1960). The same is true of the endemic race *chrysonotus* Sclater of the Central Visayan island of Cebu.

The Western Visayas and their races

The Western Visayas include the main islands of Panay, Negros and Guimaras, plus the more northerly Romblon Group (Romblon, Sibuyan and Tablas) and Masbate. The current treatment of the Colasis of these islands (duPont 1971, Forshaw 1989) assigns the populations of the Romblon Group to *L. p. bournsi* McGregor, 1905; Masbate, Panay and Ticao (a small island north of Masbate) to *L. p. panayensis* Tweeddale, 1877; and Guimaras and Negros to *L. p. regulus* Souancé, 1856. Nomenclatural (as opposed to taxonomic) complications are centred on the names *regulus* and *panayensis*, plus *occipitalis* Finsch, 1874.

Loriculus panayensis Tweeddale versus *L. regulus* Souancé

Tweeddale (1877a) gave Ilo Ilo, the main trading port of Panay, as the type locality of his *panayensis*, and he has been followed in this by all subsequent authors. Tweeddale's own publication, however, shows that this is incorrect. He quoted an extract from a notebook kept by J. Murray aboard H.M.S. *Challenger* as follows: "Ship arrived in Ilo Ilo on the 28th [October 1874], at 5 p.m. On the 30th the following birds were shot. These are all from the island opposite the town." Tweeddale then listed 12 species, one of which is *Loriculus panayensis*, which he formally described two pages later.

"The island opposite the town" of Ilo Ilo is Guimaras. The correct citation of the type locality of *panayensis* Tweeddale should therefore be "'Ilo Ilo' = Guimaras". Delacour & Mayr (1946), duPont (1971) and other authors have assigned the Guimaras population to *L. p. regulus* of Negros. If this were correct, then *panayensis* would become a synonym of *regulus*, and another name would have to be found for the birds of Panay, Masbate, and Ticao—assuming that those of Panay and Guimaras do indeed belong to separate subspecies. This question will be addressed later.

Coryllis occipitalis Finsch versus *Loriculus regulus* Souancé

The history of the name *occipitalis* (which was omitted from the synonymies of McGregor 1909, Hachisuka 1934, and duPont 1971) and that of *regulus* Souancé, 1856, are intertwined and convoluted. The supposed type specimen of *regulus*, BM(NH) 1859.11.22.33, was a male of unknown locality. Another specimen in the BM(NH) (1842.2.15.90), collected by Cuming and labelled "Mindanao", was at first thought by Finsch (1868) to belong to Souancé's "species" *regulus*. Sclater (1872), after having examined a series of *Loriculus* in Dr A. B. Meyer's collection, found that specimens from Negros and Panay best fitted the description of *regulus*, and he applied the name to the populations of those islands. Later, Finsch (1874) examined a pair of Negros specimens and agreed that these were true *regulus*, and that the BM(NH) "Mindanao" specimen (1842.2.15.90) represented an undescribed form, which he named *Coryllis occipitalis*.

Thus far *regulus* had been attributed to Negros and Panay. Inferential restriction to Negros was effected by Tweeddale (1877a) through his description of *panayensis* (which, as we have seen, was actually from

Guimaras), comparing it to "*regulus*, ex Negros". Later Hachisuka (1934) formally designated Negros as the type locality of *regulus*, stating that the "type specimen" was in the British Museum. Unfortunately Tweeddale, in describing *panayensis*, had before him (as is evident from his description) an immature male and a juvenile female, so his supposed diagnostic characters are invalid.

In the same paper in which he described *occipitalis*, Finsch (1874) noted a BM(NH) specimen that, like his type of *occipitalis*, had been labelled as "*regulus*". Salvadori (1891, p. 523) stated that this specimen was "the type, or a typical specimen, of *L. regulus*, Souancé, of the Massena Collection, received through the dealer Parzudaky of Paris." However Salvadori erred in listing this specimen on the next page (524) as "one of the types of *C. occipitalis*, Finsch" (this error later being repeated by Warren 1966). Finsch was of the opinion that this specimen (BM(NH) 1859.11.22.33) was different from both *regulus* and *occipitalis*, and was near *chrysonotus* Sclater from Cebu. Salvadori (1891), however, demonstrated that this specimen, obtained from the Massena collection, was in fact the holotype of *regulus*. He went farther and synonymized *occipitalis* (as represented by the Cuming holotype) with *chrysonotus*, but without overtly stating that the Cuming locality "Mindanao" attached to that specimen was erroneous; Cuming's localities are known to be untrustworthy (Parkes 1961). Dickinson examined this specimen in June 1990, and agrees that it is referable to *chrysonotus*, thus verifying its provenance as Cebu rather than Mindanao and confirming the status of *occipitalis* as a synonym of *chrysonotus*.

What is the true range of *Loriculus philippensis regulus* Souancé?

Having now determined that Negros is the *terra typica* of *regulus*, the question arises as to the full range of this subspecies. As mentioned earlier, duPont (1971) included only the populations of Negros and Guimaras in *regulus*, those of Romblon, Sibuyan and Tablas in *bournsi* (type locality Sibuyan), and those of Masbate, Panay and Ticao in *panayensis*. We have already seen that the type locality of *panayensis* is actually Guimaras, not Panay, meaning that if the birds of Guimaras are separable from those of Masbate, Panay and Ticao, a new name would have to be found for the latter.

Parkes examined a series of Colasisis representing the combined resources of CM, AMNH, USNM, DMNH, MMNH and FMNH, six of the most important American collections of Philippine birds. Many of the series consisted primarily of immature birds, useless for comparisons of colour markings. The total number of *adults* seen was as follows: Negros, 36; Guimaras, 3; Romblon, 1; Sibuyan, 15; Tablas, 10; Masbate, 12; Panay, 2; Ticao, 2. Although the material from some of the islands was undesirably limited, it quickly became evident that the subspecies characterizations relative to the crown and hind neck colours given by duPont (1971) would not hold good. The amount of red and yellow on the crown and nape is highly individually variable in adults from these islands. It became clear that the name *regulus* (with *panayensis* as a synonym) can be used for the birds of all of the central and western Visayas north and west of Cebu, *except* Sibuyan, where the name *bournsi*

will continue to apply. Although Sibuyan lies close to Romblon and Tablas (and somewhat farther from Masbate and Panay), the good series from Sibuyan clearly demonstrates the distinctiveness of *bournsi*. In that subspecies, the yellow colour of the crown in adult males is always less than in any specimens of the combined *regulus* series. Furthermore, in none of the adult females of *bournsi* is there any yellow adjoining the red crown patch. This is variable in *regulus*, but even in those females that lack a distinct yellow extension to the red crown patch, the posteriormost row of red feathers is tinged with yellow; in Sibuyan birds the red comes to a sharp border with the green of the back. There is also a slight but perceptible difference in the general dorsal colour, with *bournsi* the darkest, least yellowish green when compared with all others of this group.

The correct name for the Colasisis of Mindanao

In 1868 Finsch had named *Coryllis hartlaubi* from Mindanao (this name was erroneously attributed to Tweeddale 1877b by McGregor 1909; duPont 1971 correctly attributed it to Finsch but with a citation to Tweeddale's 1877b paper). Finsch's action in providing this name is difficult to explain, as he had available the material in the BM(NH), which included the type specimen of *apicalis* Souancé, 1856, from Mindanao, entered in the BM(NH) register in 1859. Finsch was apparently ready to believe that more than one species of *Loriculus* could be found on Mindanao, as in 1868 he listed birds from this island under both *regulus* and *hartlaubi*. In his 1874 paper, having determined that the BM(NH) "*regulus*" specimen alleged to be from Mindanao was not that form, he named that specimen "*occipitalis*" without mentioning his own *hartlaubi*, also attributed to Mindanao!

Warren (1966) considered BM(NH) 1842.2.15.34 to be a syntype rather than the holotype of *Coryllis hartlaubi* Finsch. It is true that Finsch listed two additional specimens under this name, but it is reasonably clear from his wording that he was basing his new species on the first specimen on his list; Tweeddale (1877b) was of the same opinion, and indeed might be said to have inferentially designated BM(NH) 1842.2.15.34 as a lectotype. This specimen, listed as "*f. Ad. sk.*" by Salvadori (1891), is an adult female according to Warren (1966). As it was, like BM(NH) 1859.11.22.33, a Cuming specimen attributed to "Mindanao", one might conjecture that it was collected *with* that specimen on Cebu and was thus actually an example of the Cebu subspecies currently called *chrysonotus* Sclater, 1872. In that case the name *hartlaubi* Finsch, 1868 would replace *chrysonotus* for the Cebu population. Three points militate against that interpretation. The two specimens were catalogued at the BM(NH) 17 years apart, making it at least unlikely that Cuming had collected them together. Sharpe (quoted by Tweeddale 1877b) compared a genuine Mindanao specimen with the Cuming type and found them to agree. And, finally, Finsch specifically noted that *hartlaubi* lacked an orange spot on the nape, a character that is typical of *chrysonotus* in spite of Finsch's later (1874) statement to the contrary (see colour plate on p. 347 of Forshaw 1989).

Salvadori (1891) erred in listing specimen *a* of *Loriculus apicalis* (BM[NH] 1859.11.22.35), the "type" (=syntype *fide* Warren 1966) of that "species", as also being "one of the types of *C. hartlaubi*, Finsch." That specimen was obtained by the BM(NH) from the Massena collection, whereas all three of the specimens mentioned by Finsch in his description of *hartlaubi* were obtained from Cuming.

There seems to be no reason to alter the current treatment of *hartlaubi* as a junior synonym of *apicalis* Souancé, 1856, the correct name for the Colasisis of Mindanao.

Acknowledgements and museum acronyms

We are grateful to the authorities of the American Museum of Natural History (AMNH), Bell Museum of Natural History, University of Minnesota (MMNH), Delaware Museum of Natural History (DMNH), Field Museum of Natural History (FMNH) and United States National Museum of Natural History (USNM) for allowing Parkes to examine, and in some instances borrow, specimens to supplement those in the Carnegie Museum of Natural History (CM). Dickinson received important help toward this study from Graham Cowles, Derek Read and Michael Walters at the British Museum (Natural History), Tring (BM[NH]).

Summary

Several nomenclatural and taxonomic questions relative to the populations of the Colasisis *Loriculus philippensis* of the central Philippines are resolved. The name *worcesteri* Steere applies to those of Samar and Leyte; those of Bohol are somewhat differentiated and possibly separable. By the valid designation of Hachisuka (1934), BM(NH) 1896.6.6.104 from Samar is the lectotype of *worcesteri*. The type locality of *panayensis* Tweeddale is Guimaras rather than Ilo Ilo, Panay. BM(NH) 1859.11.22.33, from an unknown locality, is the holotype, not a syntype, of *regulus* Souancé, and Hachisuka (1934) validly restricted the type locality of *regulus* to Negros. Contrary to previous authors, BM(NH) 1842.2.15.90 is the holotype, not a syntype of *occipitalis* Finsch, and is not a syntype of *regulus*. Although allegedly from Mindanao, it matches *chrysonotus* Sclater from Cebu, of which *occipitalis* is thus a synonym. The range of *regulus* is redefined, and includes Guimaras, Masbate, Negros, Panay, Romblon, Tablas and Ticao; *panayensis* Tweeddale is a synonym. The subspecies *bournsi* McGregor is valid, but is confined to Sibuyan. The correct name for the Colasisis of Mindanao is *apicalis* Souancé, with *hartlaubi* Finsch as a synonym.

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BOOKS RECEIVED

Sibley, C. G. & Ahlquist, J. E. 1991. *Phylogeny and Classification of Birds: a Study in Molecular Evolution*. Pp. xxiii+976. Yale University Press. ISBN 0-300-04085-7 (alk. paper). £60. 26 × 18.5 cm.

Sibley, C. G. & Monroe, B. L., Jr. 1991. *Distribution and Taxonomy of Birds of the World*. Pp. xxiv + 1111. Yale University Press. ISBN 0-300-04969-2. £75. 28.5 × 22 cm.

Since 1980 Sibley and Ahlquist have published a series of papers on the classification of various groups of birds based on DNA-DNA hybridization, a method which produces a quantitative measurement of the proportion of genetic material common to any two taxa that one may wish to compare, at any level from the subspecies to the order or above. The method is technically sophisticated, and has led to some controversy of a highly technical nature; the 31 papers (a few of them with additional co-authors) are scattered through many different journals and books. The result has been a revolutionary classification of birds, but it has been hard for ornithologists who are not active in this field of research to get an overall view, and to know what has been established with a fair degree of certainty, and what is still controversial. The great biological, evolutionary interest of the subject hardly needs stressing. Few would disagree that, in animals at least, classification should reflect phylogeny. In Sibley's words, "there is but one true phylogeny", and he gives strong reasons for thinking that DNA-DNA hybridization has revealed it much more accurately than any other method hitherto available. (Though the authorship is joint, the text is by Sibley, Ahlquist being responsible for the laboratory work and much of the data analysis.)

The first of these two massive volumes is a thorough, extremely clearly written, synthesis of all the DNA-DNA hybridization work. It is also much more than that, and to appreciate its scope a summary of the contents is necessary. The book is divided into two main parts. Part I begins with 8 chapters dealing with DNA and the history of our present state of understanding of its structure and function as the genetic material in all higher animals and plants. Then follows a short chapter reviewing comparative DNA studies carried out to date on all groups of organisms, from viruses to vertebrates. Chapters 10 and 11 describe the laboratory methods used by the authors in their own work, and their methods of analysis (highly technical, but important for anyone working in this field). Chapters 12 and 13 deal with the tempo of molecular evolution and the demographic factors that affect it, including a discussion of the evidence that, in birds, the tempo is related to generation time, which itself is related to the age of first breeding. This is important in interpreting the DNA results. From their earlier studies, Sibley had concluded that the rate of molecular evolution was practically constant in all birds, but these had concentrated on passerines, nearly all of which breed when one year old; later analyses of non-passerines, in which maturity may be delayed for several years, gave evidence of slower rates (just as, in a more extreme case, rates are much slower in elephants than in *Drosophila*).

Chapter 14 (62 pages) is an extremely useful historical survey of previous classifications of birds, from Linnaeus onwards, with special attention to the great 19th century anatomists (Huxley, Sundevall, Garrod, Fürbringer, Gadow and others), whose morphological researches, especially Gadow's, still provide the basis for the generally accepted current classification enshrined in such works as Peters' *Check-list*. A main purpose of this chapter is